FIGURE 1

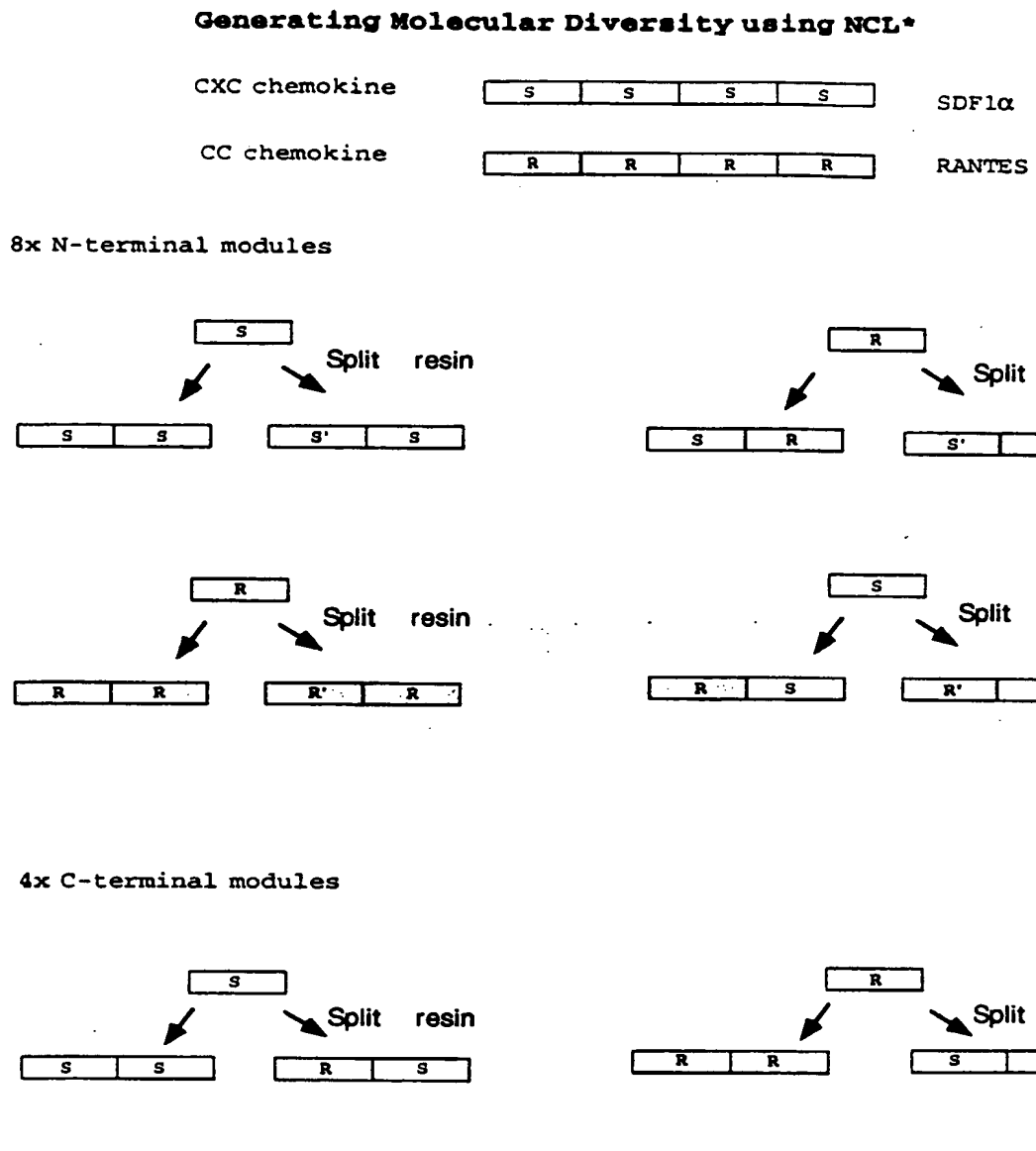
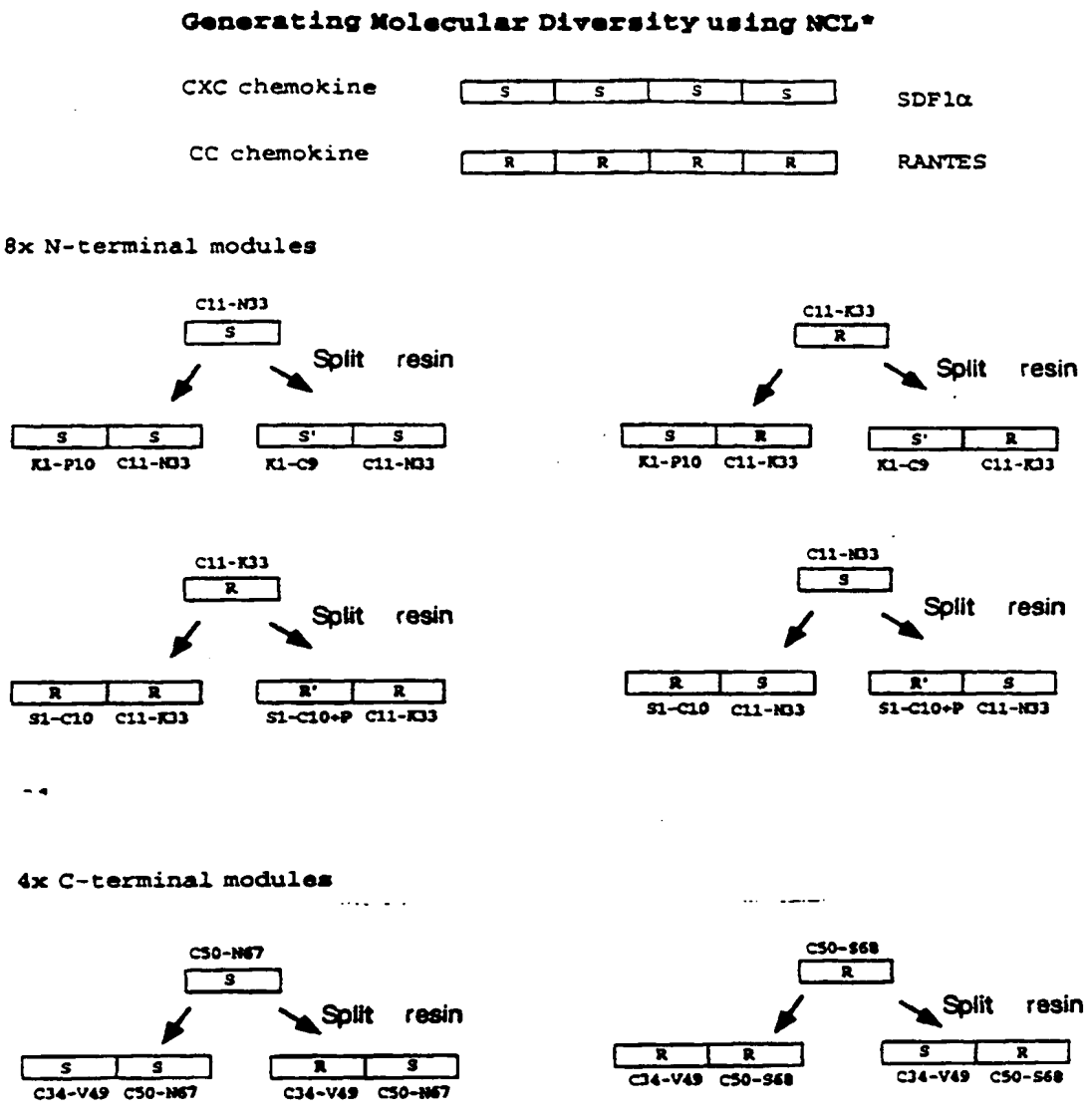

Generating Molecular Diversity using NCL*
CXC chemokine
S S S S
SDF1α
CC chemokine
R R R R
RANTES
8x N-terminal modules
S
Split resin
S S
S' S
R
Split resin
S R
S' R
R
Split resin
R R
R' R
S
Split resin
R S
R' S
4x C-terminal modules
S
Split resin
S S
R S
R
Split resin
R R
S R
Ligation at Xxx-Cys bond to generate hybrid molecule
*NCL=native chemical ligation
S'=-Pro & R=+Pro

FIGURE 2



Ligation at Xxx-Cys bond to generate hybrid molecule

*NCL=native chemical ligation

S'=-Pro & R'=+Pro

FIGURE 3

CHEMOKINE PATTERNS AND MPBV

The two amino acids preceding the central cysteine are evaluated when designing improved agonists or antagonists.
MPBV* (vMIP-I or vMIP-II)

										10									20			
RANTES	S	P	Y	S	S	D	T	T	P	**C**	**C**	**FA**	Y	I	A	R	P	L	P	R	A	H	I
SDF1	K	P	V	S	L	S	Y	R	**C**	**P**	**C**	R	F	F	E	S	H	V	A	R	A	N	V
MPBV*	G	A	S	W	H	R	P	D	K	**C**	**C**	**LG**	Y	Q	K	**R**	**P**	L	**P**		**Q**	VL	L
														↑				*					*

	24						30											40					
RANTES	**K**	E	**Y**	**F**	Y	**T**		S	G	K	**C**	S	N	**P**	A	V	**V**	F	**V**	T	R		K
SDF1	**K**	L	**H**	K	I	L	N	T	P	N	**C**	A	L		Q	I	**V**	A	R	L	**K**	**N**	**N**
MPBV*	S	S	**W**	**Y**	P	**T**		S	Q	L	**C**	S	K	**P**	G	V	**I**	F	**L**	T	**K**		**R**
									↑	↑			↑			*		*		*			

																						67			
RANTES	N	R	Q	V	C	A	N	P	E	K	K	W	V	R	E	Y	I	N	S	L	E	M	S		
SDF1	**N**	**R**	**Q**	V	**C**	I	D	**P**	K	L	**K**	W	I	Q	**E**	**Y**	**L**	E	K	A	L	N			
MPBV*	G	**R**	**Q**	V	**C**	**A**	D	K	S	**K**	D	W	V	**K**	K	L	M	Q	Q	**L**	P	V	T	A	R
				*		*						*	*												

* = Hydrophobic core side chains, highly conserved.
Bolded positions indicate conservation between all 3 or (MPBV and another).
↑ , = Unique position, MPBV matches neither RANTES nor SDF1α.
All three N-terminii are unique. Likewise the two positions before the central cysteine are unique.

FIGURE 4

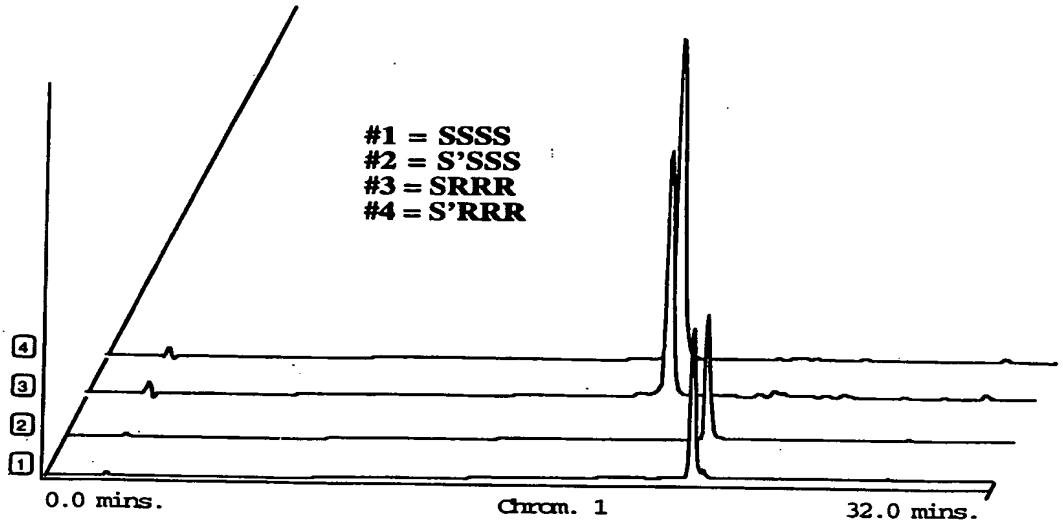


FIGURE 5